

中國醫藥大學 醫學院 生物醫學研究所碩士班 必選修課程學分表 109 學年度入學適用  
 China Medical University Graduate Institute of Biomedical Sciences  
 Curriculum for Master Program  
 The confirmation form of graduation credits for 109 school year

| 科目名稱<br>Course Name   | 授課教師<br>Teacher                 | Type     | Credits | First year |   | Second year |   | 備註<br>Remarks  |
|---|---------------------------------|----------|---------|------------|---|-------------|---|--|
|   |                                 |          |         | Semester   |   |             |   |  |
|   |                                 |          |         | 1          | 2 | 3           | 4 |  |
| 研究倫理<br>Research ethics   |                                 | Required | 0       | 0          |   |             |   | 校級必修<br>School-level required course   |
| 實驗室安全<br>Laboratory Safety  |                                 | Required | 0       | 0          |   |             |   | 校級必修<br>School-level required course   |
| 分子醫學<br>Molecular medicine  |                                 | Required | 4       | 4          |   |             |   | 院級必修<br>College-level required course  |
| 專題討論(一)(二)Seminar I / II  | 全所老師<br>All the teachers        | Required | 2       | 1          | 1 |             |   | 全英授課<br>Full-English course  |
| <b>合計 必修總學分</b>   |                                 |          | 6       |            |   |             |   |  |
| 專題討論(三)(四)<br>Seminar III / IV  | 全所老師<br>All the teachers        | Elected  | 2       |            |   | 1           | 1 | 全英授課<br>Full-English course<br>尚未畢業學生必選<br>Required for whom doesn't graduate. |
| 碩士論文 M.S.Thesis   |                                 | Required | 6       |            |   |             | 6 |  |
| <b>分子化學暨細胞生物學組 Molecular And Cellular Biology Group</b>                           |                                 |          |         |            |   |             |   |  |
| 分子細胞生物學<br>Molecular cell biology   | 謝佳宏等<br>Chia-Hung Hsieh<br>etc. | Elected  | 3       | 3          |   |             |   | 分生組核心選修課<br>MCB Group Core Course<br>全英授課<br>Full-English course               |
| 生物技術研究法<br>Biomedical research technique  | 陳慧婕等<br>Hui-Jye Chen etc.       | Elected  | 2       | 2          |   |             |   | 分生組核心選修課<br>MCB Group Core Course  |
| 奈米生物科技與再生醫學特論<br>Special topic on<br>nanobiotechnology &<br>regeneration medicine | 洪慧珊<br>Huei-Shan Hung           | Elected  | 2       | 2          |   |             |   |  |
| 計算生物學<br>Computational biology  | 陸志豪<br>Chih-Hao Lu              | Elected  | 3       | 3          |   |             |   |  |

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| 哺乳類胚與動物複製技術<br>Embryo & animal cloning<br>technology                                       | 朱志成<br>Jyh-Cherng Ju          | Elected | 2 | 2 |   |   |   | 全英授課<br>Full-English course                                     |
| 蛋白質修飾與基因調控特論<br>Special topics on protein<br>modification & gene regulation                | 陳慧婕<br>Hui-Jye Chen           | Elected | 2 | 2 |   |   |   |   |
| 幹細胞技術研究法<br>Stem cells research technique  | 劉詩平<br>Shih-Ping Liu          | Elected | 2 | 2 |   |   |   | 暑假上課<br>Summer vacation course                                  |
| 幹細胞技術專題討論(一)(二)<br>Seminar in stem cell<br>technology(I)(II)                               | 劉詩平<br>Shih-Ping Liu          | Elected | 4 | 2 | 2 |   |   |   |
| 動物實驗與實驗技術<br>Animal experiment &<br>experimental technique                                 | 盧大宇<br>Dah-Yuu Lu             | Elected | 2 | 2 |   |   |   |   |
| 實驗動物學 Laboratory animals   | 林子恩<br>Tzu-En Lin             | Elected | 2 | 2 |   |   |   |   |
| 分子藥理學特論<br>(一)(二)(三)(四)<br>Special topics on molecular<br>pharmacology (I) (II) (III) (IV) | 湯智昕<br>Chih-Hsin Tang         | Elected | 4 | 1 | 1 | 1 | 1 | 全英授課<br>Full-English course                                     |
| 生物訊息傳遞特論<br>Special topics on signal<br>transduction                                       | 陳慧婕<br>Hui-Jye Chen           | Elected | 2 |   | 2 |   |   |   |
| 組織工程與生物醫學特論<br>Special topics on tissue<br>engineering & biomedicine                       | 洪慧珊<br>Huei-Shan Hung         | Elected | 2 |   | 2 |   |   |   |
| 結構生物資訊與機器學習<br>Structural bioinformatics &<br>machine learning                             | 陸志豪<br>Chih-Hao Lu            | Elected | 2 |   | 2 |   |   |   |
| 實驗動物醫學 Laboratory<br>animal medicine   | 林子恩<br>Tzu-En Lin             | Elected | 2 |   | 2 |   |   |   |
| 動物行為實驗設計 Design for<br>animal behavior experiment  | 盧大宇<br>Dah-Yuu Lu             | Elected | 2 |   |   |   | 2 |   |
| <b>神經科學組 Neural Science Group</b>  |                               |         |   |   |   |   |   |   |
| 神經科學 Neuroscience  | 吳東川等<br>Dong Chuan Wu<br>etc. | Elected | 2 | 2 |   |   |   | 神科組核心選修課<br>NS Group Core Course<br>全英授課<br>Full-English course |

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| 認知神經科學 Cognitive neuroscience  | 簡惠玲等<br>Hui-Lin Chien etc     | Elected | 3 | 3 |   |   |   | 神科組核心選修課<br>NS Group Core Course                                |
| 小鼠胚胎發育解剖學<br>Anatomy and embryology of the mouse                     | 張璿云<br>Sunny LY Chang         | Elected | 2 | 2 |   |   |   |   |
| 發育神經科學專題討論(一)(二)<br>Seminar in developmental neuroscience (I) (II)   | 張璿云<br>Sunny LY Chang         | 選       | 2 | 1 | 1 |   |   |   |
| 臨床認知與神經科學特論<br>Special topic on clinical cognitive & neural sciences | 呂明桂等<br>Ming-Kuei Lu etc      | 選       | 2 | 2 |   |   |   |   |
| 人類注意力<br>Human attention   | 李金鈴<br>Jing-Ling Li           | 選       | 2 |   | 2 |   |   |   |
| 知覺發展特論<br>Special topics on perceptual development                   | 簡惠玲<br>Hui-Lin Chien          | 選       | 2 |   | 2 |   |   |   |
| 認知科學論文寫作<br>Paper writing in cognitive sciences                      | 簡惠玲<br>Hui-Lin Chien          | 選       | 2 |   | 2 |   |   | 全英授課<br>Full-English course                                     |
| 認知神經科學病例研究<br>Patient-based approaches to cognitive neuroscience     | 李金鈴<br>Jing-Ling Li           | 選       | 2 |   |   | 2 |   |   |
| <b>微生物暨免疫學組 Microbiology and Immunology Group</b>                    |                               |         |   |   |   |   |   |   |
| 免疫學特論(一)(二)<br>Special topics on immunology(I)(II)                   | 徐偉成等<br>Woei-Cheang Shyu etc. | Elected | 4 | 2 | 2 |   |   | 微免組核心選修課<br>MI Group Core Course                                |
| 疫苗學特論 Special topics on vaccinology                                  | 劉士任等<br>Shih-Jen Liu etc.     | Elected | 2 | 2 |   |   |   | 微免組核心選修課<br>MI Group Core Course                                |
| 自體免疫疾病研究特論(一)(二)(三)(四)Special topics on autoimmune diseases (I)      | 徐婕琳<br>Hsu, Jye-Lin           | Elected | 4 | 1 | 1 | 1 | 1 | 微免組核心選修課<br>MI Group Core Course<br>全英授課<br>Full-English course |
| 線蟲模式生物及其應用<br>Caenorhabditis elegans in biomedical Research          | 傅如輝<br>Ru-Huei Fu             | Elected | 2 | 2 |   |   |   |   |
| 中草藥與免疫學特論 Special topics on herb/phytochemicals and immunology       | 邱紹智<br>Shao-Chih Chiu         | Elected | 2 | 2 |   |   |   |   |

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| 癌症病毒學特論 Special topics on cancer virology                                       | 鄧喬方<br>Chiao-Fang Teng         | Elected | 2 | 2 |   |   |   |  |
| 微免新知與探索 Exploring new concepts in microbiology & immunology                     | 盧敏吉等<br>Min-Chi Lu etc.        | Elected | 1 | 1 |   |   |   |  |
| RNA 生物學特論<br>Special topics on RNA biology                                      | 傅如輝<br>Ru-Huei Fu              | Elected | 2 |   | 2 |   |   |  |
| 免疫學生物技術特論 Special topics on biotechnology in immunology                         | 邱紹智<br>Shao-Chih Chiu          | Elected | 2 |   | 2 |   |   |  |
| 偽慢病毒應用與實作<br>Application & practice of pseudotyped lentivirus                   | 蘇文琪<br>Wen-Chi Su              | Elected | 2 |   | 2 |   |   | 全英授課<br>Full-English course  |
| 癌症生物標記特論 Special topics on cancer biomarker                                     | 鄧喬方<br>Chiao-Fang Teng         | Elected | 2 |   | 2 |   |   |  |
| 呼吸道免疫學專題討論<br>(一)(二)(三)(四)Seminar in respiratory immunology<br>(I)(II)(III)(IV) | 李珍珍<br>Chen-Chen Lee           | Elected | 4 | 1 | 1 | 1 | 1 |  |
| 肝癌研究專題討論(一)(二)<br>Seminars in liver cancer research<br>(I) (II)                 | 鄧喬方<br>Chiao-Fang Teng         | Elected | 4 | 2 | 2 |   |   |  |
| 蛋白質化學 Protein chemistry   | 楊文豪<br>Wen-Hao Yang            | Elected | 3 | 3 |   |   |   |  |
| 免疫代謝 Immune metabolism  | 王雪君<br>Hsueh-Chun Wang         | Elected | 3 | 3 |   |   |   |  |
| 生技醫藥產業特論<br>Special topics on biotech & pharmaceutical industry                 | 楊文豪<br>Wen-Hao Yang            | Elected | 2 |   | 2 |   |   |  |
| <b>腫瘤醫學組 Tumor Medicine Group</b>   |                                |         |   |   |   |   |   |  |
| 癌症生物技術<br>Biotechnology for cancer research                                     | 謝哲宗<br>客座教授<br>Jer-Tsong Hsieh | Elected | 1 | 1 |   |   |   | 腫瘤醫學組核心選修課<br>TM Group Core Course<br>暑期課程<br>Summer vacation course |
| 癌症生物學<br>Cancer biology   | 余永倫<br>Yung-Luen Yu            | Elected | 2 |   | 2 |   |   | 腫瘤醫學組核心選修課<br>TM Group Core Course<br>全英授課<br>Full-English course    |

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| 癌症內分泌特論<br>(一)(二)(三)(四)<br>Special topics on<br>oncoendocrinology(I)(II)(III)(IV)             | 劉哲育<br>Jer-Yuh Liu     | Elected | 4 | 1 | 1 | 1 | 1 | 全英授課<br>Full-English course |
| 胰臟癌研究專題討論<br>(一)(二)(三)(四)<br>Special topics on pancreatic<br>cancer research (I)(II)(III)(IV) | 吳恒祥<br>Heng-Hsiung Wu  | Elected | 4 | 1 | 1 | 1 | 1 |                             |
| 腫瘤標靶治療與抗藥性(一)(二)<br>Tumor targeted therapy and drug<br>resistance (I)(II)                     | 黃偉謙<br>Wei-Chien Huang | Elected | 4 | 2 | 2 |   |   | 全英授課<br>Full-English course |
| 癌症能量代謝特論(一)(二)<br>Special topics on cancer<br>metabolism(I)(II)                               | 陳雅惠<br>Ya-Huey Chen    | Elected | 2 | 1 | 1 |   |   | 全英授課<br>Full-English course |
| 癌症與發炎特論(一)(二)<br>Special topics on cancer &<br>inflammation (I)(II)                           | 余玉萍<br>Yuh-Pyng Sher   | Elected | 2 | 1 | 1 |   |   | 全英授課<br>Full-English course |
| 癌症分子影像 (一)(二)<br>Cancer molecular imaging(I)(II)  | 謝佳宏<br>Chia-Hung Hsieh | Elected | 4 | 2 | 2 |   |   |                             |
| 科學性文章賞析與撰寫(一)(二)<br>Scientific paper writing(I)(II)   | 胡春美<br>Chun-Mei Hu     | Elected | 2 | 1 | 1 |   |   |                             |
| 基因損傷調控<br>Regulation of DNA damage<br>response  | 王紹椿<br>Shao-Chun Wang  | Elected | 2 |   | 2 |   |   | 全英授課<br>Full-English course |
| 癌症免疫學<br>Cancer immunology  | 吳恒祥<br>Heng-Hsiung Wu  | Elected | 2 | 2 |   |   |   |                             |
| 非編碼 RNA 及表觀遺傳學特論<br>Special topics on noncoding<br>RNA biology & epigenetics                  | 吳恒祥<br>Heng-Hsiung Wu  | Elected | 2 | 2 |   |   |   |                             |
| 生物資料庫應用與實作<br>Application & practice of<br>biological database                                | 鄭維中<br>Wei-Chung Cheng | Elected | 2 | 2 |   |   |   |                             |
| 生物資料庫與數據分析<br>Biological database and data<br>analysis  | 鄭維中<br>Wei-Chung Cheng | Elected | 2 |   | 2 |   |   |                             |
| 基因工程與生物技術特論<br>Special topics on gene<br>engineering & biotechnology                          | 吳恒祥<br>Heng-Hsiung Wu  | Elected | 2 |   | 2 |   |   |                             |

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| 癌症生物學研究法<br>Biomethology of cancer research   | 吳恒祥等<br>Heng-Hsiung Wu<br>etc. | Elected | 2 |   |   | 2 | 暑假上課<br>Summer vacation course  |
| 致癌基因與標靶治療特論(一)<br>(二)(三)(四) Special topics on<br>oncogene & cancer target<br>therapy (I)(II)(III)(IV) | 李培志<br>Pei-Chih Lee            | Elected | 4 | 1 | 1 | 1 | 1   |
| 癌症免疫治療特論(一)(二)<br>(三)(四)<br>Special topics on immuno-<br>oncology therapy (I)(II)(III)(IV)            | 許榮茂<br>Jung-Mao Hsu            | Elected | 4 | 1 | 1 | 1 | 1   |
| 癌症轉移與幹細胞特論(一)<br>(二)(三)(四) Special topics on<br>cancer metastasis & stem cells<br>(I)(II)(III)(IV)    | 楊文豪、陳擘<br>Wen-Hao Yang<br>etc. | Elected | 4 | 1 | 1 | 1 | 1   |
| <b>臨床醫學組 Clinical Medicine Group</b>  |                                |         |   |   |   |   |   |
| 轉譯基因體醫學特論<br>Translational genomics   | 包大韜<br>Ba-Tian Bau             | Elected | 2 |   |   | 2 | 臨床醫學組核心選修課<br>CM Group Core Course  |
| 轉譯醫學之理論與實務(一)(二)<br>Theory & practice of translation<br>medicine (I)(II)                              | 包大韜<br>Ba-Tian Bau             | Elected | 2 | 1 | 1 |   | 臨床醫學組核心選修課<br>CM Group Core Course<br><b>全英授課</b><br><b>Full-English course</b> |
| 血栓與發炎研究新趨勢<br>New research trends in<br>thrombosis and inflammation                                   | 沈明毅<br>Ming-Yi Shen            | Elected | 2 | 2 |   |   |   |
| 脂質學之現代觀點 Current<br>opinion in lipidology   | 沈明毅<br>Ming-Yi Shen            | Elected | 2 | 2 |   |   |   |
| 生物基礎統計 Biostatistics  | 陳怡文<br>Yi-Wen Chen             | Elected | 2 | 2 |   |   |   |
| 醫療 3D 列印原理 3D printing in<br>medical application introduction   | 陳怡文<br>Yi-Wen Chen             | Elected | 2 | 2 |   |   |   |
| 醫療 3D 列印 3D printing in<br>medical application  | 陳怡文<br>Yi-Wen Chen             | Elected | 2 |   | 2 |   |   |
| 遺傳流行病學 Genetic<br>epidemiology  | 吳世欣<br>Shih-Hsin Wu            | Elected | 2 |   | 2 |   |   |
| 人類菌相專題 Special topic of<br>the human microbiota   | 吳世欣<br>Shih-Hsin Wu            | Elected | 2 | 2 |   |   |   |

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| 藥物遺傳學 Pharmacogenetics | 吳世欣<br>Shih-Hsin Wu | Elected | 2 | 2 |  |  |  |
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注意事項：

- 1、教育目標：(1)強化學生生物醫學與生物資訊專業知識。  
(2)培養學生獨立思考、具有發覺及解決問題能力。  
(3)培育具有國際觀之人才。
  - 2、109 學年度入學新生實施，本所修業 1 年至 4 年。
  - 3、本所學位規定應修學分，至少應修 30 學分（含碩士論文 6 學分）始得畢業。必修 6 學分{含院級必修 4 學分}、論文 6 學分、選修 18 學分{需有 9 學分為本所開設之學分(含各組核心選修課程)}
  - 4、各組修課規定：除應修習必修學分外，各組學生需從核心選修課程中，至少擇一門課修習(如該課程有分上、下學期，則皆需修畢，始可認列)，加上選修課程後，始可畢業。
  - 5、研究生修業期間除修習各系所規定應修課程外，尚須完成下列校定課程之研修：
    - (1)「實驗室安全」-碩博士班校級必修 0 學分。
    - (2)「研究倫理」-碩博士班校級必修 0 學分。
    - (3)「分子醫學」-碩博士班院級必修 4 學分
  - 6、畢業前必須通過英文鑑定，方能畢業。相關規定依本校「學生英文能力鑑定實施辦法」辦理。
1. The master program is a one-to-four-year course. Minimum credits required for graduation is 30 credits, including 6 credits from required courses, 18 credits from elective courses (must require 9 credits of GIBS courses) and 6 credits of master's thesis research.
  2. Each group should take at least one Core Course (two credits).
  3. Besides taking the required courses as stipulated by each department in the study period, graduate students shall complete the training of the following courses as stipulated by the school:
    - (1) "Laboratory safety" – A school-level required course in the Master’s Program and Doctoral Program with 0 credits.
    - (2) "Research Ethics" - A school-level required course in the Master’s Program and Doctoral Program with 0 credits
    - (3) "Lecture on Modern Biomedicine" - A school-level required course in the Doctoral Program with 4 credits.
    - (4) "Molecular medicine" - A college-level required course in the Master’s Program and Doctoral Program with 4 credits.